Original Article

Factors influencing satisfaction with medical services in medically underserved populations: an analytical cross-sectional study at a free medical clinic in the Republic of Korea

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ABSTRACT

Objectives: This study aimed to explore factors influencing satisfaction with medical services among medically underserved populations at the free medical clinic, providing data to improve free medical services for these populations.
Methods: We employed a descriptive correlational study design involving 112 individuals (aged 19 years and older) from medically underserved populations who visited the clinic. Data were collected through face-to-face surveys from September to October 2023, and statistical analyses (t-tests, analysis of variance, Pearson correlation, and hierarchical multiple regression) were used to identify key predictors of satisfaction.
Results: Perceived support from healthcare providers emerged as the strongest predictor of satisfaction with medical services, demonstrating a significant positive association. While social support was positively correlated with perceived support from healthcare providers, it did not independently predict satisfaction.
Conclusion: These findings underscore the importance of healthcare provider and social support in increasing satisfaction with medical services among medically underserved populations. Developing tailored healthcare programs and specialized healthcare provider training are essential strategies to improve healthcare access and outcomes for these vulnerable groups.

Keywords: Health services; Ill-housed persons; Patient satisfaction; Primary health care; Professional-patient relations

Introduction

The late 1990s economic crisis in the Republic of Korea precipitated widespread unemployment, dramatically increasing the number of individuals experiencing homelessness and contributing to the expansion of the urban poor, collectively described as medically underserved populations [1]. Economic instability and growing socioeconomic inequality further exacerbated labor market polarization, leading to an increase in the impoverished population [2]. Although the Republic of Korea's social welfare system provides shelters and meal assistance, healthcare services remain inadequate. Many individuals experiencing homelessness lack the necessary documentation or stable residency required for coverage under the National Health Insurance program, restricting their ability to obtain essential medical care [3].

Despite a 21% decline in the number of people experiencing homelessness in the Republic of Korea from 2016 to 2021, substantial challenges persist. Urban centers such as Seoul, where access to healthcare remains a major issue, are particularly affected [4]. Internationally, similar barriers exist, with those experiencing homelessness facing economic hardship, stigma, and systemic inefficiencies that impede healthcare utilization [5]. Even in countries with universal healthcare systems, administrative hurdles and discrimination restrict access [6,7].

The coronavirus disease 2019 (COVID-19) pandemic exacerbated healthcare disparities, increasing the proportion of individuals avoiding medical care despite being ill [4]. Many public hospitals were repurposed for the COVID-19 response, further limiting healthcare access for marginalized groups [3]. Studies have highlighted financial instability, stigma, and negative healthcare experiences as key barriers to medical service utilization, which result in delayed treatments and preventable hospitalizations [5,6,8,9].

Traditional healthcare systems are designed for populations with stable residency and health insurance, which creates barriers for people experiencing homelessness [10,11]. Non-governmental organizations help bridge these gaps by providing healthcare outreach services that facilitate access and reduce emergency department visits [12,13]. Research indicates that integrating community-based programs with formal healthcare systems significantly improves health outcomes [12].

Consequently, the Republic of Korea has developed community-based initiatives to improve healthcare access for individuals experiencing homelessness. The free medical clinic, established in 1997, has consistently provided free healthcare services, including mobile outreach initiatives and regional support. Since March 2021, it has offered weekly free medical services in Seoul, establishing it as one of the few clinics to continuously serve medically underserved populations [4].

This study aims to analyze factors influencing satisfaction with medical services at the free medical clinic, as well as to provide foundational data to support free healthcare services for medically underserved populations. By identifying key determinants of patient satisfaction, this research seeks to improve healthcare accessibility and quality for marginalized groups and to offer insights for policymakers and healthcare providers.

Materials and Methods

Study Design
This analytical cross-sectional study examines factors influencing patient satisfaction with medical services at the free medical clinic.

Setting and Sample
This study targeted men and women aged 19 years and older who had visited the free medical clinic at least once and who had no communication difficulties. Participants who voluntarily provided written consent were surveyed face-to-face. A convenience sampling method was used based on the accessibility and availability of participants at the clinic.

> **HIGHLIGHTS**
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> · Support from healthcare providers emerged as the strongest predictor of satisfaction with medical services among people experiencing homelessness and the urban poor.
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> · Social support and perceived support from healthcare providers demonstrated significant positive correlations with overall satisfaction.
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> · High satisfaction levels were reported for medical services, emphasizing the importance of tailored healthcare programs and provider training.
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> · Expanding free clinic services to include dental and ophthalmology specialties could increase accessibility and satisfaction.
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> · Integrated educational programs on chronic disease and oral health management are essential to address unmet needs and improve health outcomes.

Using G*Power 3.1 (University of Düsseldorf), the sample size was determined for the multiple linear regression analysis of factors influencing patient satisfaction. Assuming an effect size of 0.15, a significance level of 0.05, and a power of 0.90, the minimum required sample size was calculated to be 99 participants [14]. Considering a potential 20% dropout rate, 124 participants were initially selected. However, challenges in participant recruitment and incomplete responses led to the exclusion of 12 surveys, yielding a final dataset of 112 participants.

Measurements/Instruments

The survey included 16 items on general characteristics, 10 items from the Mini-Mental State Examination [15], 20 items on social support, 8 items on perceived medical support [16], and 29 items on satisfaction with medical services [17]. The last of these categories was subdivided into 6 questions about facility and environment, 6 on medical skills and expertise, 4 on staff friendliness, 7 on patient care and service, 4 on procedure convenience, and 2 on other relevant aspects. The survey also contained 2 questions on educational needs, 9 on satisfaction with medical or pharmacy services, and 1 on additional medical services desired.

Demographic characteristics

Demographic and other factors collected from participants included gender, age, marital status, highest level of education, religion, regular monthly income, permanent residence status, temporary accommodations, permanent residence location, family cohabitation, subjective health status, smoking and alcohol consumption, and current health issues. Additionally, respondents were asked about the most favorable aspect of visiting the Raphael Free Clinic.

Mini-Mental State Examination

The Mini-Mental State Examination comprises 10 items [15], each scored 0 for an incorrect response and 1 for a correct one. Higher scores indicate better cognitive function. In this study, all 112 participants scored 9 or above [15], and data from all participants were included in the final analysis.

Social support

Social support was measured using 20 items [15] on a 4-point scale, where higher scores indicate a higher level of support. Item 15, which pertained to children, was excluded as it was generally not applicable to participants. Thus, 19 items were ultimately included in the analysis. The reliability of the instrument in this study, as determined by the Cronbach α, was 0.93.

Perceived support from medical personnel

Perceived support from medical professionals was assessed using 8 items from the 16-item social support scale developed by Tae [16]. This scale consists of 2 sections: family support and medical personnel support. Each item is rated on a 5-point scale, with higher scores reflecting greater perceived support. Item 8, concerning inpatients, was removed, leaving 7 items for analysis. The reliability of the instrument, as measured by the Cronbach α, was 0.84.

Satisfaction with medical services

Satisfaction with medical services was assessed using a modified questionnaire originally created by Cho [17], adapted to suit the context of the Raphael Clinic. The questionnaire comprises 24 items across 6 categories: facilities and environment, medical skills and expertise, staff friendliness, patient care and services, procedure convenience, and 2 additional items concerning reuse and recommendation. Each item is rated on a 5-point scale, with higher scores indicating greater satisfaction. The reliability of the questionnaire in this study, as measured by Cronbach α values, was 0.87 for facilities and environment, 0.87 for medical skills and expertise, 0.91 for staff friendliness, 0.90 for patient care and services, 0.72 for procedure convenience, 0.60 for reuse and recommendation, and 0.94 for overall satisfaction.

Educational needs

Educational needs were evaluated using 2 items: one regarding education on the chronic disease management of diabetes and hypertension, and another pertaining to education on oral health management. Each item was measured on an 11-point scale, ranging from 0 ("not needed at all") to 10 ("very much needed"), with higher scores thus indicating greater educational needs.

Satisfaction with clinic or pharmacy services

Satisfaction with clinic or pharmacy services was assessed using 9 items, each measuring satisfaction with specific services: pharmacy, reception, pre-examination room, general consultation, internal/family medicine consultation, orthopedic (rehabilitation) consultation, urology consultation, dermatology consultation, and neurosurgery consultation. Each item was rated on an 11-point scale, ranging from 0 ("not satisfied at all") to 10 ("very satisfied"), with higher scores thus indicating greater satisfaction.

Additional medical services desired

Participants were surveyed regarding additional medical services they desired, encompassing obstetrics and gynecology, ophthalmology, otolaryngology, dentistry, neuropsychiatry,

neurology, and surgery.

For items not directly derived from previously validated instruments, expert consultation was sought with public health and healthcare professionals to refine the content validity. Following expert feedback, modifications were made to the "satisfaction with clinic/pharmacy services" section to better clarify the evaluation criteria, such as friendliness, the clarity of medical explanations, and wait times.

A pilot test was conducted with a small cohort of participants outside the principal study sample to ensure the clarity and appropriateness of the survey items. Based on the results, additional instructions were integrated to aid respondents in assessing clinical service satisfaction. Additionally, a directive was added to the question regarding additional medical services desired, indicating that multiple selections were permitted.

As satisfaction and needs for additional services were gauged using simple rating scales that reflected subjective evaluations, formal reliability testing was deemed unnecessary. These adjustments ensured that the questionnaire was comprehensible, user-friendly, and relevant to the study population.

Data Collection/Procedure

Data were collected from September 1, 2023, to October 27, 2023. After approval was obtained from the director of the free medical clinic, participants were enlisted through a notice posted on the bulletin board inside Myeong-dong Cathedral. Surveys were distributed in written form, and data collection occurred in the reception area on the first floor of the clinic.

The researcher outlined the survey procedure to participants and remained available to address any queries regarding the items. To minimize potential bias, however, participants completed the survey independently without external assistance. The survey required approximately 10 to 15 minutes to complete, and participants received a modest token of appreciation upon submission.

Data Analysis

The collected data were analyzed using IBM SPSS for Windows ver. 25.0 (IBM Corp.). Descriptive statistics, including frequency, mean, and standard deviation, were computed for all study variables. Independent t-tests and one-way analysis of variance (ANOVA) were applied to assess differences in participants' mental states, levels of social support, perceived support from medical personnel, and satisfaction with medical services. The Scheffe test was utilized for *post-hoc* comparisons.

Pearson correlation analysis was applied to investigate relationships between key study variables. Hierarchical multiple linear regression analysis was employed to delineate factors influencing satisfaction with medical services, with the total satisfaction score serving as the continuous dependent variable. Dummy coding was applied to nominal-scale variables, designating the category with higher satisfaction levels as the reference.

Ethical Considerations

This study was approved by the Kangwon National University Institutional Review Board (KWNUIRB-2023-05-001-004). Participant recruitment was managed by independent research staff with no direct clinical relationship to the respondents, thereby minimizing undue influence. The recruiters were trained research personnel, not clinic staff or healthcare providers. Informed consent was obtained after researchers detailed the study's purpose, procedures, potential risks and benefits, voluntary nature of participation, withdrawal options, and data protection measures. Participants were given 10 to 15 minutes to review the consent form before signing to ensure a thorough understanding.

Eligibility was confirmed using de-identified clinic records to verify prior visits. These records were accessed solely for verification purposes, and no identifiable personal data were included in the study dataset. The demographic information collected included gender, age, marital status, education level, religion, income, housing status, and temporary housing, along with general residential location (e.g., city or district) to ensure anonymity. A designated member of the research team, trained in data protection protocols, anonymized the personal data. This process ensured the complete removal of all personal identifiers before analysis began. Strict confidentiality protocols were enforced, and clinical data were accessed only for eligibility verification, without the inclusion of personal identifiers. All anonymized data were securely stored and used exclusively for research purposes.

Results

General Characteristics of the Study Population

The study included 112 participants: 93 men (83.0%) and 19 women (17.0%), with an average age of 74.0 years. The majority were married (62 participants, 55.4%). Among the participants, 47 (42.0%) had completed high school, and 49 (43.8%) reported no religious affiliation, while 34 (30.4%) identified as Christian. Thirty-five participants (31.3%) reported having a source of income, with an average monthly income of 800,000 Korean won (approximately

US$553.29 as of February 5, 2025). Most participants (103, 92.0%) had permanent residences, with 83 (74.1%) living in Seoul and 20 (17.9%) in Gyeonggi Province. Of those without permanent residences, 1 participant (11.1%) was experiencing homelessness, 5 (4.5%) lived in a small room (*jjokbang*), and 3 (2.7%) had other temporary accommodations, such as staying with relatives or in a *goshiwon* (a small, affordable dormitory). Fifty-five participants (49.1%) lived with their families, and the average subjective health status was 3.25±1.00 out of 5, indicating moderate perceived health. Most respondents were non-smokers (106 participants, 94.6%) and abstained from alcohol (83 participants, 74.1%). Common health issues included hypertension (61 participants, 58.7%), arthritis (47 participants, 45.2%), benign prostatic hyperplasia (39 participants, 37.5%), diabetes (29 participants, 27.9%), sciatica (23 participants, 22.1%), hyperlipidemia (22 participants, 21.2%), and eye diseases (15 participants, 14.4%) (Table 1).

Social Support, Support from Medical Professionals, and Satisfaction with Medical Services

The average score for social support was 32.63±11.10 out of 76 points, while for support from medical professionals, the average score was 22.15±7.08 out of 35 points. Satisfaction with medical services was rated as follows: facilities and environment, 19.78±3.57 out of 25 points; medical skills and professionalism, 19.95±3.56 out of 25 points; staff kindness, 13.01±2.01 out of 15 points; patient care and services, 24.82±3.84 out of 30 points; procedure convenience, 10.83±2.85 out of 15 points; and intention to reuse and recommend to others, 8.14±1.70 out of 10 points. Overall, satisfaction with medical services received a mean score of 96.53±13.64 out of 120 points (Table 2).

Differences in Social Support, Perceived Support from Healthcare Providers, and Satisfaction with Medical Services According to General Characteristics

One-way ANOVA results indicated statistically significant differences in social support based on marital status (F=2.90, p=0.025), residence status (F=2.02, p=0.046), and family cohabitation (F=3.51, p=0.001). However, the Scheffe *post-hoc* test revealed no statistically significant differences among specific groups, potentially due to its conservative nature in controlling for multiple comparisons and reduced sensitivity in smaller sample sizes. A significant disparity was observed regarding satisfaction with medical services by gender (t=−2.59, p=0.011), with female participants reporting a higher mean satisfaction score (103.74±10.90)

Table 1. General characteristics (n=112)

Characteristic	Category	Value
Sex	Male	93 (83.0)
	Female	19 (17.0)
Age (y)	<70	24 (21.4)
	70−79	59 (52.7)
	≥80	29 (25.9)
	Mean±SD	73.96±8.36
Marital status	Unmarried	13 (11.6)
	Married	62 (55.4)
	Separated	6 (5.4)
	Widowed	15 (13.4)
	Divorced	16 (14.3)
Education	No formal education	3 (2.7)
	Elementary school graduate	21 (18.8)
	Middle school graduate	30 (26.8)
	High school graduate	47 (42.0)
	College graduate	3 (2.7)
	University graduate or higher	8 (7.1)
Religion	None	49 (43.8)
	Christian	34 (30.4)
	Buddhist	12 (10.7)
	Catholic	16 (14.3)
	No response	1 (0.9)
Income	Yes	35 (31.3)
	No	77 (68.8)
If yes, income amount (unit 10,000 KRW)	Mean±SD	79.52±47.01
Residence	Yes	103 (92.0)
	No	9 (8.0)
Temporary shelter	Street	1 (11.1)
	Gjok room	5 (4.5)
	Others	3 (2.7)
Residential area	Gyeonggi-do	20 (17.9)
	Seoul	83 (74.1)
	Others	2 (1.8)
	No response	7 (6.3)
Cohabitation with family	Yes	55 (49.1)
	No	57 (50.9)
Perceived health status	Mean±SD	3.25±1.00
Smoking	Yes	6 (5.4)
	No	106 (94.6)
Alcohol consumption	Yes	29 (25.9)
	No	83 (74.1)
Health issues[a]	Hypertension	61 (58.7)
	Diabetes mellitus	29 (27.9)
	Arthritis	47 (45.2)
	Hyperlipidemia	22 (21.2)
	Cardiac disease	5 (4.8)
	Cerebrovascular accident	5 (4.8)
	Osteoporosis	12 (11.5)
	Ophthalmic disorders	15 (14.4)
	Sciatica	23 (22.1)
	Benign prostatic hyperplasia	39 (37.5)
	Cancer	3 (2.9)
	Others	21 (20.2)

Data are presented as n (%) unless otherwise stated.
SD, standard deviation; KRW, Korean won.
[a]Multiple responses were permitted.

Table 2. Social support, support from medical professionals, and satisfaction with medical services (*n* = 112)

Variable	Minimum	Maximum	Mean ± SD
Social support	19	76	32.63 ± 11.10
Support from medical professionals	7	35	22.15 ± 7.08
Satisfaction with medical services	52	120	96.53 ± 13.64
Facilities and environment	11	25	19.78 ± 3.57
Medical technology and expertise	10	25	19.95 ± 3.56
Staff friendliness	5	15	13.01 ± 2.01
Interest in patient engagement and service quality	15	30	24.82 ± 3.84
Procedure convenience	6	15	10.83 ± 2.29
Willingness to reuse and recommend to others	2	10	8.14 ± 1.70

SD, standard deviation.

than male respondents (95.05 ± 13.72) (Table 3).

Correlations between Variables

Correlation analysis of the main variables revealed a positive relationship between social support and perceived support from healthcare providers (r = 0.34, *p* < 0.001). Additionally, perceived support from healthcare providers was positively correlated with satisfaction with medical services (r = 0.37, *p* < 0.001) (Table 4).

Factors Influencing Satisfaction with Medical Services

To identify the factors affecting satisfaction with medical services, multiple regression analysis was applied (Table 5). Dummy variables were generated for nominal-scale variables, using the category with higher satisfaction as the reference. The reference categories were female gender, presence of income, living in a residence, and cohabitation with family. The Durbin-Watson statistic was 2.03, confirming the assumption of independence. Tolerance values ranged from 0.76 to 0.96, well above the threshold of 0.1, while variation inflation factor values ranged from 1.05 to 1.31, all below the critical value of 10. These findings indicated the absence of multicollinearity issues and confirmed the analysis's suitability. The analysis identified perceived support from healthcare providers (β = 0.35, *p* = 0.001) as a significant predictor of satisfaction with medical services. The regression model displayed statistical significance (F = 3.39, *p* = 0.003) and accounted for 13.4% of the variance in satisfaction with medical services (Table 5).

Additional Analysis

Satisfaction by department

Satisfaction levels across various departments and pharmacy services were measured on a 10-point scale. The highest satisfaction was reported for internal/family medicine services, with an average score of 7.82 ± 1.86. Pharmacy services

received the lowest satisfaction rating, with an average score of 7.22 ± 2.39. The other departments' satisfaction scores were as follows: urology, 7.70 ± 2.11; overall clinic services, 7.66 ± 2.07; dermatology, 7.64 ± 2.19; neurosurgery, 7.63 ± 2.43; preliminary examination, 7.59 ± 2.20; reception, 7.51 ± 2.22; and orthopedic (rehabilitation), 7.44 ± 2.10. Regarding additional services, 38 participants (53.5%) expressed a preference for dental services, while 33 participants (46.5%) preferred ophthalmology services.

Educational needs

Educational needs were assessed on a 10-point scale. The mean score for education on the management of chronic diseases, such as diabetes and hypertension, was 6.36 ± 2.98. The need for oral health education was marginally higher, with an average score of 6.58 ± 3.25.

Discussion

This study investigated factors influencing patient satisfaction with medical services among individuals experiencing homelessness and the urban poor at the free medical clinic, providing foundational data to improve the services offered by such clinics. It examined various elements affecting medical service experiences, including general characteristics, social support, and healthcare provider support. Notably, the study explored economic, social, and psychological barriers to healthcare access and proposed strategies to increase satisfaction. By identifying essential support measures, the research underscores the key role of free clinics in improving healthcare access and quality of life for medically underserved populations.

The primary health issues among participants were hypertension, arthritis, benign prostatic hyperplasia, diabetes, sciatica, hyperlipidemia, and eye diseases. These findings align with those reported by Han and Yoon [9], who documented similar health conditions among residents of

Table 3. Differences in social support, support from medical professionals, and satisfaction with medical services by general characteristics ($n = 112$)

Characteristic	Support from social networks		Support from medical professionals		Satisfaction with medical services	
	Mean ± SD	t or F (p) Scheffe	Mean ± SD	t or F (p) Scheffe	Mean ± SD	t or F (p) Scheffe
Sex		−0.63 (0.528)		−1.91 (0.059)		−2.59 (0.011)
Male	32.33 ± 11.14		21.58 ± 6.89		95.05 ± 13.72	
Female	34.11 ± 11.09		24.95 ± 7.52		103.74 ± 10.90	
Age (y)		0.51 (0.605)		0.19 (0.829)		0.27 (0.767)
< 70	32.17 ± 14.10		21.63 ± 7.44		95.08 ± 16.45	
70−79	33.58 ± 10.82		22.05 ± 6.92		97.37 ± 13.60	
≥ 80	31.10 ± 8.83		22.79 ± 7.32		96.00 ± 11.36	
Marital status		2.90 (0.025)		0.41 (0.801)		0.23 (0.920)
Unmarried	35.54 ± 17.21		21.08 ± 9.07		93.54 ± 19.75	
Married	34.58 ± 10.16		22.73 ± 6.68		96.48 ± 12.80	
Separated	23.17 ± 6.40		21.50 ± 7.18		97.17 ± 15.16	
Widowed	31.40 ± 10.11		20.47 ± 7.81		98.40 ± 12.68	
Divorced	27.44 ± 7.55		22.63 ± 6.64		97.13 ± 12.69	
Education		1.38 (0.239)		0.35 (0.880)		0.09 (0.994)
No formal education	27.67 ± 11.59		19.00 ± 5.57		94.33 ± 22.19	
Elementary school graduate	30.62 ± 9.73		21.33 ± 7.68		96.24 ± 12.79	
Middle school graduate	31.73 ± 10.23		21.73 ± 8.24		97.60 ± 12.88	
High school graduate	35.53 ± 12.32		22.81 ± 6.67		96.32 ± 15.05	
College graduate	26.33 ± 7.10		21.00 ± 6.25		93.33 ± 4.51	
University graduate or above	28.50 ± 8.99		23.63 ± 4.53		96.50 ± 12.25	
Religion		1.51 (0.217)		0.72 (0.544)		0.92 (0.432)
None	31.29 ± 12.10		22.00 ± 7.70		96.22 ± 13.78	
Christian	34.03 ± 10.29		21.53 ± 7.35		97.32 ± 13.86	
Buddhism	29.67 ± 8.99		21.17 ± 7.10		99.83 ± 10.60	
Catholic	36.88 ± 10.10		24.44 ± 4.21		91.81 ± 13.90	
Income		0.44 (0.664)		−1.96 (0.052)		0.41 (0.682)
Yes	33.31 ± 10.84		20.23 ± 6.94		97.31 ± 14.72	
No	32.32 ± 11.28		23.03 ± 7.02		96.17 ± 13.21	
Residence		2.02 (0.046)		0.41 (0.683)		−0.29 (0.776)
Yes	33.25 ± 11.20		22.23 ± 6.91		96.42 ± 13.92	
No	25.56 ± 6.93		21.22 ± 9.26		97.78 ± 10.41	
Cohabitation with family		3.51 (0.001)		0.90 (0.372)		−0.33 (0.741)
Yes	33.25 ± 11.20		22.23 ± 6.91		96.42 ± 13.92	
No	25.56 ± 6.93		21.22 ± 9.26		97.78 ± 10.41	

SD, standard deviation.

Table 4. Correlations between variables ($n = 112$)

Variable	Social support		Support from medical professionals		Age		Satisfaction with medical services	
	r	p	r	p	r	p	r	p
Social support	1							
Support from medical professionals	0.34	< 0.001	1					
Age	−0.08	0.385	0.04	0.656	1			
Satisfaction with medical services	0.13	0.173	0.37	< 0.001	0.11	0.238	1	

Table 5. Factors affecting satisfaction with medical services (*n* = 112)

Variable	B	SE	β	t	p	VIF
(Constant)	70.36	12.67		5.56	< 0.001	
Sex						
Male	5.83	3.30	0.16	1.76	0.081	1.06
Age	0.14	0.15	0.09	0.94	0.350	1.05
Income						
No	−2.76	2.71	−0.09	−1.02	0.312	1.10
Residence						
No	2.96	4.71	0.06	0.63	0.532	1.14
Cohabitation with family						
No	1.13	2.67	0.04	0.42	0.674	1.23
Social support	0.04	0.12	0.03	0.30	0.765	1.05
Support from medical professionals	0.67	0.19	0.35	3.54	0.001	1.23

Adjusted R^2 = 0.13, F = 3.39, *p* = 0.003.
SE, standard error; VIF, variation inflation factor.

homeless shelters, including high rates of alcohol-related diseases, hypertension, diabetes, gastrointestinal disorders, dental problems, tuberculosis, and musculoskeletal disorders. They also noted the inadequacy of medical services and low satisfaction with community healthcare. Persistent health challenges and barriers to accessing medical care remain prevalent among those experiencing homelessness [18]. Wiens et al. [19] demonstrated that inadequate diabetes management in this population contributes to increased complications. This study reaffirms that chronic conditions such as hypertension, arthritis, and diabetes are of paramount concern, emphasizing the need for strategies that improve access and ensure sustained care.

This study revealed that social support among individuals experiencing homelessness and the urban poor was low, with an average score of 32.63 ± 11.10 out of a potential 76, consistent with previous findings [20]. Limited social networks, economic poverty, stigma, and mental distress adversely affect the health and quality of life of these individuals [20]. Furthermore, the absence of social connections hinders their ability to obtain necessary support [20]. Therefore, providing financial assistance and stable housing is crucial for improving healthcare satisfaction and overall well-being [21]. In addition to healthcare access programs, policies that promote economic stability are essential.

Support from healthcare providers was quantified at 22.15 ± 7.08 out of 35, underscoring its beneficial effect on healthcare satisfaction. Hauff and Secor-Turner [18] affirmed that support from providers improves access to healthcare among those experiencing homelessness. Similarly, Park and Kim [1] emphasized the significance of self-efficacy and emotional support, advocating for psychosocial interventions within

healthcare programs. This study supports these conclusions by demonstrating that trust and support from healthcare providers are essential for increasing satisfaction with healthcare services among individuals experiencing homelessness and the urban poor. However, since the score for healthcare provider support was not as high as desired, there is room for further improvement. In addition to social and provider support, emotional support and programs that boost self-efficacy are vital for improving the health of this demographic.

Satisfaction with healthcare services was high across all evaluated categories, including facilities, staff friendliness, medical expertise, and convenience. The overall satisfaction score at the free medical clinic averaged 96.53 ± 13.64 out of 120, reflecting a positive evaluation. Individuals experiencing homelessness and the urban poor face substantial economic and social barriers that impede their access to healthcare [18]. Economic instability remains a significant challenge, emphasizing the need for systematic support. Improvements in healthcare quality and the development of a comprehensive management system are key to satisfaction and health outcomes. Developing programs that facilitate easier access and address the specific needs of these populations will markedly improve their healthcare experiences [18].

Social support varied considerably based on marital status, housing stability, and cohabitation with family members, corroborating Lee and Kim [2]'s findings that familial relationships significantly influence social support. The presence of family members in the home positively impacted psychological stability and health. Individuals experiencing homelessness and the urban poor often struggle to meet basic needs, which in turn limits their access to healthcare and social services [22].

Healthcare satisfaction varied by gender, with male respondents reporting lower satisfaction, possibly due to more severe health issues and weaker social networks. Barriers to healthcare access include unstable housing, economic hardship, limited health literacy, and stigma [23]. Additionally, healthcare providers face challenges such as resource shortages and systemic obstacles, including transportation difficulties and overloaded systems [24]. These barriers hinder many individuals from effectively utilizing healthcare services [23]. Nevertheless, access to medical services and community support significantly increases overall satisfaction [25], highlighting the need for structured programs that provide continuous and accessible healthcare support for medically underserved populations.

Correlation analysis revealed that social support was positively associated with healthcare provider support; however, in the regression model, it did not directly affect satisfaction with medical services. Instead, support from healthcare providers was identified as the primary determinant of satisfaction, emphasizing its pivotal role in enhancing healthcare utilization. This finding suggests that although social support may augment the perception of provider support, its influence on satisfaction is likely indirect.

Lee and Kim [2] observed that individuals with prolonged homelessness and repeated job loss exhibited reduced self-efficacy, which was positively correlated with healthcare satisfaction. These results indicate that psychosocial factors, particularly social support, are vital for engaging with healthcare services. Future studies should investigate whether social support moderates or mediates the relationship between provider support and satisfaction, using additional statistical analyses such as mediation or interaction modeling.

Interventions that strengthen both social and provider support could improve the healthcare experiences of individuals experiencing homelessness and the urban poor. However, because this study did not include interaction terms in the regression analysis, further research is needed to determine whether social support modifies the relationship between provider support and satisfaction.

Analysis of factors influencing satisfaction with healthcare services revealed that support from healthcare providers had the strongest impact ($\beta = 0.35$, $p = 0.001$). Consistent with the findings of Hauff and Secor-Turner [18], this result underscores the vital role of provider support in enhancing healthcare access and satisfaction among those experiencing homelessness. The regression model ($F = 3.39$, $p = 0.003$) accounted for 13.4% of the variance in service satisfaction, highlighting the need to strengthen provider-patient

relationships. Miller et al. [26] identified "accessibility," "person-centered care," and "respect and empathy" as key priorities in healthcare services for individuals experiencing homelessness, corroborating our finding that perceived provider support substantially influences satisfaction. Moreover, studies by Clark et al. [27] and Perna et al. [28] suggest that continuous care, multidisciplinary approaches, and person-centered services improve overall well-being. A study by Bell et al. [29] further corroborates the role of accessible healthcare in meeting the needs of vulnerable populations. Increasing healthcare provider support and expanding patient-centered programs are crucial for addressing systemic barriers and improving health outcomes for people experiencing homelessness and the urban poor. Policies and programs that foster respect, empathy, and continuous care should increase satisfaction with healthcare services and yield long-term health benefits [3].

Satisfaction with medical and pharmacy services varied in this study. Internal/family medicine received the highest score (7.82 ± 1.86 out of 10), while pharmacy services scored the lowest (7.22 ± 2.39). Research by Farmer et al. [30] stressed the essential role of pharmacists in supporting medication adherence among individuals experiencing homelessness, who frequently face challenges in understanding their prescriptions. Proper counseling on usage, side effects, and drug interactions can improve adherence and treatment outcomes. By modifying packaging or simplifying medication regimens, pharmacists can further support patient compliance. Increased pharmacist involvement is anticipated to improve both health management and overall satisfaction with healthcare services for people experiencing homelessness and the urban poor.

Developing targeted strategies for those experiencing homelessness is essential. Expanding dental and ophthalmology services in free or mobile clinics through collaborations with specialists and volunteer recruitment can increase access to care. Strategic clinic placement and mobile medical units can further improve accessibility for these individuals [31]. Additionally, continuous assessment of healthcare needs and integration of patient feedback into service enhancements are imperative. These measures will ensure timely medical care, leading to improved health outcomes and overall well-being for individuals experiencing homelessness and the urban poor.

Educational needs regarding the management of chronic diseases, such as diabetes and hypertension, received a mean rating of 6.36 ± 2.98 out of 10. The need for oral health management scored slightly higher, at 6.58 ± 3.25. Farmer et al. [30] observed that individuals experiencing homelessness could effectively manage their health when provided with

both practical and emotional support, underscoring the indispensable role of such support in program efficacy. Thorndike et al. [32] highlighted the necessity of trust-building and patient-centered educational programs, arguing that tailored education could significantly increase engagement with healthcare services. The study advocates for comprehensive educational programs that incorporate both practical and emotional support [24], emphasizing chronic disease and oral health management through audiovisual resources and hands-on practice. Programs should prioritize accessibility and sustainability, while also incorporating healthcare professionals, social workers, and psychological counselors in a multidisciplinary approach. Regular feedback and support for voluntary participation can increase program effectiveness, ultimately empowering those experiencing homelessness and the urban poor to manage their health and improve their quality of life.

This study systematically examined the barriers that prevent people experiencing homelessness and the urban poor from accessing healthcare services, identifying key economic, social, and legal constraints. These findings provide insights for developing practical interventions to enhance healthcare access. By analyzing the factors affecting satisfaction with a free clinic, the study provides foundational data for improving medical services tailored to medically underserved populations. Future research should focus on developing customized support programs and healthcare provider training to support both service quality and patient satisfaction. Moreover, additional studies across various regions and populations are essential to refine interventions that increase healthcare accessibility and effectiveness for people experiencing homelessness and the urban poor.

Conclusion

The findings of this study indicate that support from healthcare providers, financial assistance, and accessible healthcare services are vital in improving satisfaction with healthcare services among people experiencing homelessness and the urban poor. In particular, the study underscores that support from healthcare providers plays a significant role in influencing satisfaction levels, emphasizing the need for providers to recognize the unique circumstances of this population and offer tailored support.

Future research should further investigate these factors, especially in the development of customized support programs for people experiencing homelessness and the urban poor, as well as in training initiatives targeting healthcare providers to improve service quality and patient satisfaction. Expanding free clinic services to include additional specialties such as dental and ophthalmology care, alongside educational programs on chronic disease and oral health management, can help address unmet healthcare needs and yield better overall health outcomes.

By augmenting targeted support programs and providing specialized training for healthcare providers, healthcare services can be made more accessible and responsive to the needs of people experiencing homelessness and the urban poor. Ultimately, these measures may improve their access to healthcare, enhance their quality of life, and contribute to better health outcomes, thereby supporting reintegration into society.

Notes

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